

Result	Score	Query Match	Length	DB	ID	Description
1	3008	100.0	568	18	AAW2744.1	Human CRAF1-a (TRAF3)
2	3008	100.0	568	21	AAV9816.6	Human TRAF3 prote
3	3008	100.0	568	23	AAO1757.7	Human CD40 recept
4	3008	100.0	690	18	AAW2744.8	Human CRAF1-b (TRAF3)
5	3002	99.8	568	17	AAAO316.6	LMPI associated p
6	2980.5	99.1	567	12	AAAB5761.5	Amino acid sequen
7	2970.5	98.8	567	17	AAAR925.9	Full-length CD40 l
8	2886.5	96.0	567	23	AAAO175.6	Murine CD40 recept
9	2878.5	95.7	567	23	ABBS705.4	Mouse ischaemic co
10	2847.5	94.7	543	18	AAW2744.2	Human CRAF1 isofo

11	2847.5	94.7	665	18	AAW27433	Human CRAPI-b Isof
12	2831.5	94.1	543	17	AAW28833	CD40 associated pr
13	2680	89.1	516	18	AAW27436	Human CRAPI-b Isof
14	2680	89.1	638	18	AAW27437	Human CRAPI-b Isof
15	2674	88.9	512	18	AAW27435	Human CRAPI Isofor
16	2674	88.9	634	18	AAW27435	Human CRAPI-b Isof
17	2443.5	81.2	472	17	AAW80885	CD40 associated pr
18	2224	73.9	438	17	AAW15721	Delta221 TRAF-3 de
19	1701.5	56.6	347	21	AAW15722	Human TRAF3 delta-
20	1391	46.2	282	21	AAW19585	Murine TRAF5, a no
21	1253.5	41.7	558	18	AAW27609	Human TRAF5, a no
22	1253.5	41.7	558	18	AAW27610	Human TRAF5, a no
23	1192.5	39.6	557	18	AAW29288	Human TRAF5, a no
24	1192.5	39.6	557	18	AAW29288	Human TRAF5, a no
25	1192.5	39.6	557	21	AAW80703	Human TRAF5, a no
26	1118	37.2	228	21	AAW80703	Human TRAF5, a no
27	959	31.9	181	17	AAW80884	Human TRAF5, a no
28	837.5	27.8	501	23	AAW80884	Human TRAF5, a no
29	836.5	27.8	501	17	AAW80884	Human TRAF5, a no
30	831	27.0	157	17	AAW80884	Human TRAF5, a no
31	813	27.0	155	23	AAW17782	CD40 associated pr
32	744	24.7	501	21	AAW98165	Mouse TRAF2, Mus
33	744	24.7	501	22	AAW1903	CD40 associated pr
34	717.5	22.9	422	22	AAW1901	Human TRAF2 protei
35	636.5	21.2	416	17	AAW03147	Human TRAF2 splice
36	636.5	21.2	416	21	AAW98164	Epstein-Barr Induc
37	628	20.9	409	17	AAW9057	Human TRAF1 protei
38	593.5	19.7	336	22	AAW1902	Mouse TRAF1, Mus
39	563.5	18.7	417	21	AAW87785	Human TRAF2, vari
40	560.5	18.6	470	21	AAW25766	Human TRAF1, vari
41	557.5	18.5	470	21	AAW98167	Human TRAF4 protei
42	553	18.4	522	18	AAW32113	Tumour necrosis fa
43	553	18.4	522	21	AAW98169	Human TRAF6 (TNF
44	553	18.4	522	23	AAW82888	Human TRAF6 (TNF
45	546.5	18.2	243	21	AAW07002	Human TRAF2 (NC)-CA

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RESULT 1
AAW27431
ID      AAW27431 standard; Protein; 568 AA
XX

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DT	27-MAR-1998	(first entry)
XX		
DE	Human CRAF1-a (TRAF-3-p55) polypeptide.	
XX		
KW	CD40 receptor associated factor 1; CRAF1-a; TRAF-3; p55; human;	
KW	CD40 mediated intracellular signalling; organ rejection; allergy;	
KW	hay fever; autoimmune disease; systemic lupus erythematosus;	
KW	rheumatoid arthritis; myasthenia gravis; Graves' disease;	
KW	idiopathic thrombocytopenia purpura; haemolytic anaemia;	
KW	diabetes mellitus; psoriasis; hyper immunoglobulin E syndrome;	
KW	apoptosis; Reiter's syndrome; spondyloarthritis; Lyme disease; HIV;	
KW	syphilis; tuberculosis; arthritis; scleroderma; pulmonary fibrosis;	
KW	pneumococcosis; adult respiratory distress syndrome; pneumonitis;	
KW	asbestosis; silicosis; Farmer's lung; hepatitis; cirrhosis;	
KW	atherosclerosis; multiple sclerosis; glomerulonephritis;	
KW	glomerulocystosis; glomerulopathy; kidney disease; nephropathy;	
KW	endocarditis; leprosy; malaria; Goodpasture's disease;	
KW	Henoch-Schoenlein purpura; polyarteritis; multiple myeloma;	
KW	Wegener's granulomatosis; cryoglobulinemia;	
KW	Waldenstrom's macroglobulinaemia; amyloidosis; Sjogren's syndrome;	
KW	AIDS; oesophageal dysmotility; inflammatory bowel disease;	
KW	bladder disease; Epstein-Barr virus; mononucleosis; B cell tumour;	
KW	Burkitt's lymphoma; nasopharyngeal carcinoma; pneumonia;	
KW	gene therapy; diagnosis.	
XX		
XX	Homo sapiens.	

Db	1	MESSKMDSPGALQTNPLKLTHTDRSAKGTVPVPEEDGGIKKEKFAVTVTDVXKCKSCHLTVL	60
QY	61	CSRKQTECHRFRCESQAMALLSSSSPKCTACQESIVKDYFKDNCCREKELLADQYRNE	120
Db	61	CSRKQTECHGRCEQAMALLSSSSPKCTACQESIVKDYFKDNCCREKELLADQYRNE	120
QY	121	SRGCAQDLTLGLHLVHLKNDCHFEELPCVPRDCKEKVLRKDLRDHYERACKYREATCSHC	180
Db	121	SRGCAQDLTLGLHLVHLKNDCHFEELPCVPRDCKEKVLRKDLRDHYERACKYREATCSHC	180
QY	181	KSQVPMIALQKHEDDPCPCVVVSCPHKCSVOYTLRLSELSAHLSECVNASTCSFKRRGCV	240
Db	181	KSQVPMIALQKHEDDPCPCVVVSCPHKCSVOYTLRLSELSAHLSECVNASTCSFKRRGCV	240
QY	241	FGQTNQIKAKHEASAVQHVNLKEMSNLEKVKSLQNESVEKKNISIOSLHNOICSEI	300
Db	241	FGQTNQIKAKHEASAVQHVNLKEMSNLEKVKSLQNESVEKKNISIOSLHNOICSEI	300
QY	301	EIERQKEMLNNEKSLIHLQRYTDSQAKLKELDKEIRPRQNMEDPADSKSSVSLSLQNR	360
Db	301	EIERQKEMLNNEKSLIHLQRYTDSQAKLKELDKEIRPRQNMEDPADSKSSVSLSLQNR	360
QY	361	VTELESYDKSAGOVARTGLLESQLSRHDQMLSVHDIRLADMRLRQVLETASYNGVLIV	420
Db	361	VTELESYDKSAGOVARTGLLESQLSRHDQMLSVHDIRLADMRLRQVLETASYNGVLIV	420
QY	421	KIRDYKRRKQEAQVNGKTLSTYSOPFYTGFGYKMCARYTLNGDGMGKGTLSLFFVIMRG	480
Db	421	KIRDYKRRKQEAQVNGKTLSTYSOPFYTGFGYKMCARYTLNGDGMGKGTLSLFFVIMRG	480
QY	481	EVDALLPMPFQKQYTLMLMDQSSSRHHLDAKPPDNSSSFKKPTEGMINIASCCPVFAQ	540
Db	481	EVDALLPMPFQKQYTLMLMDQSSSRHHLDAKPPDNSSSFKKPTEGMINIASCCPVFAQ	540
QY	541	TYLENGTYIKDDTIFIKVIVDTSDDLDP	568
Db	541	TYLENGTYIKDDTIFIKVIVDTSDDLDP	568
RESULT 2			
ID	AA98166	AA98166 standard; Protein: 568 AA.	
XX	AC	AA98166;	
XX	DT	30-AUG-2000 (first entry)	
XX	DE	Human TRAF3 protein sequence.	
XX	KW	Tumour necrosis factor receptor-associated factor; TRAF; human; anti-inflammatory; E-selectin; Jun kinase.	
XX	OS	Homo sapiens.	
XX	PN	W0200020435-A1.	
XX	PD	13-APR-2000.	
XX	PF	05-OCT-1999; 99WO-US23171.	
XX	PR	06-OCT-1998; 98US-0167109.	
XX	PA	(ISIS-) ISIS PHARM INC.	
XX	PI	Baker BF, Cowselet LM, Monia BP, Xu XS;	
XX	DR	WPI: 2000-303732/26.	
XX	PT	N-PSDB; AAA55492.	
XX	PT	Antiense oligonucleotides targeted to nucleic acids encoding human tumour necrosis factor receptor-associated factor (TRAF), useful for treating diseases associated with TRAF expression such as inflammatory	


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|||||
Db 1 MESSKNDSPGALQTNPLTLHTDRSAGTPVPEQGGYKPKYKVEKCKECLVL 60
OY 61 CSPKQTECGHRCFESCAALLSSSPKCTACQESYKDKYFKNCKRELLAQIYCRNE 120
Db 61 CSPKQTECGHRCFESCAALLSSSPKCTACQESYKDKYFKNCKRELLAQIYCRNE 120
OY 121 SRGAEOLTLGHLVHLKNCHEELPCVRDCKEKLRLDLDHVKACKYREATCSHC 180
Db 121 SRGAEOLTLGHLVHLKNCHEELPCVRDCKEKLRLDLDHVKACKYREATCSHC 180
OY 181 KSGVPMALOKHEDTDCPCVVVSCPHKCSYQTLRLSELASHLSECVNAPSTCSFKRYGCV 240
Db 181 KSGVPMALOKHEDTDCPCVVVSCPHKCSYQTLRLSELASHLSECVNAPSTCSFKRYGCV 240
OY 241 FQGTNGOIKAHESASAVOHVNLKEMSNLEKRVSLLONESVEKNKSIGSLHNOICSEFI 300
Db 241 FQGTNGOIKAHESASAVOHVNLKEMSNLEKRVSLLONESVEKNKSIGSLHNOICSEFI 300
OY 301 EIEKOKEMLNNEKSLIHLQVIDSOAEKLELDEKELRPRORWEEADSKSSVESLONR 360
Db 301 EIEKOKEMLNNEKSLIHLQVIDSOAEKLELDEKELRPRORWEEADSKSSVESLONR 360
OY 361 VTELESYDKSAGVARTGLESOLSRHDOMLSYHDIRLADMDLRFQVLETSYNGVLIW 420
Db 361 VTELESYDKSAGVARTGLESOLSRHDOMLSYHDIRLADMDLRFQVLETSYNGVLIW 420
OY 421 KIRPKRRKQEAHVAGKTLSTYSQPFYTGFGYKMCARVYINGOMGKGTLSLFFYIMRG 480
Db 421 KIRPKRRKQEAHVAGKTLSTYSQPFYTGFGYKMCARVYINGOMGKGTLSLFFYIMRG 480
OY 481 EYDALLPMPFKOKYTLMLMPOGSSRRHLGDAFRPDPNSSSFKKPTGEMNIA SCPPVVAQ 540
Db 481 EYDALLPMPFKOKYTLMLMPOGSSRRHLGDAFRPDPNSSSFKKPTGEMNIA SCPPVVAQ 540
OY 541 TVLENGTYIKDDTIFIKVIVDTSIDLPDP 568
Db 541 TVLENGTYIKDDTIFIKVIVDTSIDLPDP 568

RESULT 4
AAW27428
ID AAW27428 standard; Protein; 690 AA.
XX
AC AAW27428;
XX
DT 27-MAR-1998 (first entry)
XX
DE Human CRAF1-b (TRAF-3-p70) polypeptide.
XX
KW CD40 receptor associated factor 1; CRAF1-b; TRAF-3; p70; human;
KW CD40 mediated intracellular signalling; organ rejection; allergy;
KW hay fever; autoimmune disease; systemic lupus erythematosus;
KW rheumatoid arthritis; myasthenia gravis; Graves' disease;
KW idiopathic thrombocytopenia purpura; haemolytic anaemia;
KW diabetes mellitus; psoriasis; hyper immunoglobulin E syndrome;
KW apocytosis; Rieger's syndrome; spondylarthritis; Lyme disease; HIV;
KW syphilis; tuberculosis; arthritis; scleroderma; pulmonary fibrosis;
KW pneumocystis; adult respiratory distress syndrome; pneumonitis;
KW abesctosis; silicosis; Farmer's lung; hepatitis; cirrhosis;
KW atherosclerosis; multiple sclerosis; glomerulonephritis;
KW glomerulonephritis; glomerulopathy; kidney disease; nephropathy;
KW endocarditis; leprosy; malaria; Goodpasture's disease;
KW Henoch-Schoenlein purpura; polyarteritis; multiple myeloma;
KW Wegener's granulomatosis; cryoglobulinemia;
KW Waldenstrom's macroglobulinemia; amyloidosis; Sjogren's syndrome;
KW AIDS; oesophageal dysmotility; inflammatory bowel disease;
KW bladder disease; Epstein-Barr virus; mononucleosis; B cell tumour;
KW Burkitt's lymphoma; nasopharyngeal carcinoma; pneumonia;
KW gene therapy; diagnosis.
XX
OS Homo sapiens.
XX

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FH Key
FT Location/Qualifiers
FT 52..122
FT /label= "CRAF-p domain"
FT /note= "Claim 1"
FT Region
FT 239..263
FT /note= "zinc finger 1 (2n binding to Cys-239,
FT Cys-246, His-258 and Cys-263)"
FT Region
FT 270..292
FT /note= "zinc finger 2 (zinc binding to Cys-270,
FT Cys-275, His-287 and Cys-292"
FT Region
FT 299..319
FT /note= "zinc finger 3 (2n binding to Cys-299,
FT Cys-302, His-314 and Cys-319"
FT Region
FT 326..347
FT /note= "zinc finger 4 (2n binding to Cys-326,
FT Cys-330, His-343 and Cys-347)"
FT Region
FT 354..381
FT /note= "zinc finger 5 (2n binding to Cys-354,
FT Cys-361, His-373 and His-381"
FT Binding-site
FT 16..19
FT /note= "putative SH3 binding motif"
FT Binding-site
FT 44..47
FT /note= "putative SH3 binding motif"
FT Binding-site
FT 103..110
FT /note= "putative SH3 binding motif"
XX
XX MO9734473-A1.
XX
XX 25-SEP-1997.
XX
XX 21-MAR-1997; 97WO-US05076.
XX
XX 18-SEP-1996; 96US-0026584.
XX 21-MAR-1996; 96US-0013820.
XX 01-MAY-1996; 96US-0016626.
XX 01-MAY-1996; 96US-0016659.
XX
XX (UYCO ) UNIV COLUMBIA NEW YORK.
XX
XX Cleary AM, Frank DM, Lederman S;
XX WPI, 1997-479907/44.
XX N-PSDB: AAT90123.
XX
XX Protein comprising CRAF1-b domain capable of inhibiting CD40
XX mediated cell activation - useful to treat conditions characterised
XX by aberrant or unwanted level of CD40 mediated intracellular
XX signalling
XX
XX Example 1; Fig 1A-O; 158pp; English.
XX
XX This polypeptide comprises a CRAF1 (TRAF-3) protein designated
XX CRAF1-b or TRAF-3-p70 or p70 or CRAF1(p70) or TRAF-3(p70). It
XX is encoded by exons 1-2 and 4-13 of the human CRAF gene (see
XX AAT90123). A lower mol.wt. CRAF1, designated CRAF1a (see AAW27431), has
XX also been identified, as well as isoforms p5 (see AAW27429), p15 (see
XX AAW27430) and variants of CRAF1a and CRAF1b (see AAW27432-37) that
XX comprise different combinations of zinc fingers. CRAF1 peptides,
XX comprising from 0-4 zinc finger domains, and nucleic acids encoding
XX them, can be used to inhibit CD40 ligand activation of cells that
XX express CD40 on their surface, particularly by introducing the
XX nucleic acid molecule into the cells, useful to treat conditions
XX characterised by an aberrant or unwanted level of CD40 mediated
XX intracellular signalling, such as organ rejection, or a CD40
XX dependent immune response in a subject receiving gene therapy. The
XX condition may be an allergic response or an autoimmune response, or
XX may be dependent on CD40 ligand-induced activation of epithelial
XX cells, an inflammatory kidney disease, a smooth muscle cell-
XX dependent disease, or a condition associated with Epstein-Barr
XX virus.
XX
XX Sequence 690 AA:
XX

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Query Match 100.0%; Score 3008; DB 18; Length 690;
 Best Local Similarity 100.0%; Pred. No. 1.1e-238;
 Matches 568; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 MESSKKMDSFGALQTNPLKHTDRSAGTPVFEVPEGGKKEKFKVTEDEKCKCHLV 60
 DB 123 MESSKKMDSFGALQTNPLKHTDRSAGTPVFEVPEGGKKEKFKVTEDEKCKCHLV 182
 QY 61 CSPKQTECGHRCFSCMAALLSSSSPKCTACQESIYKDKVKNDCCKREILALQIYCRNE 120
 DB 183 CSPKQTECGHRCFSCMAALLSSSSPKCTACQESIYKDKVKNDCCKREILALQIYCRNE 242
 QY 121 SRGCAEQLTGLHLVHLKNDCHFEELPCVRPDKCEKVLKRDLDHVEKACKYREATCSHC 180
 DB 243 SRGCAEQLTGLHLVHLKNDCHFEELPCVRPDKCEKVLKRDLDHVEKACKYREATCSHC 302
 QY 181 KSOVPMIALQKHEDTDCPCVAVSCPHKCSVQTLRLSELSAHLSECVNAPSTCSFRKRGCV 240
 DB 303 KSOVPMIALQKHEDTDCPCVAVSCPHKCSVQTLRLSELSAHLSECVNAPSTCSFRKRGCV 362
 QY 241 FOGTNOQIKAHESASAVOHVNLKEMSNLEKKYSLQNESEVKNKKSIOSLHNOICFEEI 300
 DB 363 FOGTNOQIKAHESASAVOHVNLKEMSNLEKKYSLQNESEVKNKKSIOSLHNOICFEEI 422
 QY 301 EIEROKEMLRNNEKSKILHLQRYIDSQAELKELDKETIRPFROMWEADSMKSSVESLQNR 360
 DB 423 EIEROKEMLRNNEKSKILHLQRYIDSQAELKELDKETIRPFROMWEADSMKSSVESLQNR 482
 QY 361 VTELESVDSKAGAVARNGLLESQSLSRHDOMLSVHDIRLADMDLRFOVLETAASYNGVLIW 420
 DB 483 VTELESVDSKAGAVARNGLLESQSLSRHDOMLSVHDIRLADMDLRFOVLETAASYNGVLIW 542
 QY 421 KIRDYRRRKOEAVMGKTLISYOPFTYGFYGYKMCARVYLNDGDMGKGTLSLFFVIMRG 480
 DB 543 KIRDYRRRKOEAVMGKTLISYOPFTYGFYGYKMCARVYLNDGDMGKGTLSLFFVIMRG 602
 QY 481 EYDALLPWPFFOKVYTLMLMDGSSRRHLGDAFKPDNSSFKKPRTGEMNITASGCPVFAQ 540
 DB 603 EYDALLPWPFFOKVYTLMLMDGSSRRHLGDAFKPDNSSFKKPRTGEMNITASGCPVFAQ 662
 QY 541 TVLENGTYIKDDTIFIKYIVDTSLDP 568
 DB 663 TVLENGTYIKDDTIFIKYIVDTSLDP 690

RESULT 5
 AAM03146
 ID AAM03146 standard; Protein: 568 AA.
 AC AAM03146;
 DT 23-OCT-1996 (first entry)
 XX
 DE LMP1 associated protein LMP1.
 XX
 KW LMP1 associated protein 1; latent infection membrane protein;
 KW tumour necrosis factor receptor associated factor: TRAF;
 KW signal transduction; TNF; TNFR; lymphoblast; tumorigenesis; AIDS;
 KW Hodgkin's disease; Burkitt's lymphoma; nasopharyngeal carcinoma;
 KW mononucleosis; Epstein-Barr virus; EBV; therapy.
 XX
 OS Homo sapiens.
 XX
 FT Key Location/Qualifiers
 FT Domain 245..568
 FT Domain /label= LMP1-Blinding_domain
 FT Domain 309..341
 FT Domain /label= Coiled-coil_domain
 FT Domain 406..568
 FT Domain /label= Carboxy-terminal domain
 XX
 PN W09620723-A1.
 XX

PD 11-JUL-1996.
 XX
 PF 28-DEC-1995; 95MO-US16980.
 XX
 XX 30-DEC-1994; 94US-0367540.
 XX
 PA (BGHM) BRIGHAM & WOMEN'S HOSPITAL.
 XX (REGC) UNIV CALIFORNIA.
 PI Birkenbach M, Kaye KM, Kleef E, Mostalos G, Vanarsdale T;
 PI Ware C;
 XX
 XX WPI: 1996-333765/33.
 DR N-PSDB: AAT31273.
 XX
 PT Compounds and methods for controlling TRAF-mediated signals - by
 PT modulating interactions between Epstein Barr virus encoded proteins
 PT LMP1, LMP1, TNF, TNFR to inhibit lymphoblast growth and
 PT tumorigenesis.
 XX
 PS Claim 74; Page 58-60; 87pp; English.
 XX
 CC A novel human B-cell protein (AAM03146), termed LMP1 associated protein
 CC 1 or LMP1, strongly associates with the cytoplasmic C-terminal domain
 CC (AAM03148) of Epstein-Barr virus (EBV) latent infection membrane protein
 CC 1 (LMP1), a domain that is stringently required for transformed cell
 CC growth. LMP1 is related to murine tumour necrosis factor receptor
 CC associated factor TRAF2. A related novel B-cell protein (AAM03147),
 CC EB16, appears to be the human homologue of murine TRAF1. LMP1
 CC polypeptides, esp. the LMP1 binding domain, coiled coil domain and
 CC C-terminal domain can be used to inhibit LMP1-TRAF interaction.
 CC Such polypeptides, which may be optd. by recombinant means (see
 CC also AAT31273) can be used to treat infection and control cell growth
 CC or tumorigenesis associated with LMP1-encoding viruses, partic. EBV.
 CC
 XX
 SQ Sequence 568 AA:
 Query Match 99.8%; Score 3002; DB 17; Length 568;
 Best Local Similarity 99.8%; Pred. No. 2.5e-238;
 Matches 567; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

QY 1 MESSKKMDSFGALQTNPLKHTDRSAGTPVFEVPEGGKKEKFKVTEDEKCKCHLV 60
 DB 1 MESSKKMDSFGALQTNPLKHTDRSAGTPVFEVPEGGKKEKFKVTEDEKCKCHLV 60
 QY 61 CSPKQTECGHRCFSCMAALLSSSSPKCTACQESIYKDKVKNDCCKREILALQIYCRNE 120
 DB 61 CSPKQTECGHRCFSCMAALLSSSSPKCTACQESIYKDKVKNDCCKREILALQIYCRNE 120
 QY 121 SRGCAEQLTGLHLVHLKNDCHFEELPCVRPDKCEKVLKRDLDHVEKACKYREATCSHC 180
 DB 121 SRGCAEQLTGLHLVHLKNDCHFEELPCVRPDKCEKVLKRDLDHVEKACKYREATCSHC 180
 QY 181 KSOVPMIALQKHEDTDCPCVAVSCPHKCSVQTLRLSELSAHLSECVNAPSTCSFRKRGCV 240
 DB 181 KSOVPMIALQKHEDTDCPCVAVSCPHKCSVQTLRLSELSAHLSECVNAPSTCSFRKRGCV 240
 QY 241 FOGTNOQIKAHESASAVOHVNLKEMSNLEKKYSLQNESEVKNKKSIOSLHNOICFEEI 300
 DB 241 FOGTNOQIKAHESASAVOHVNLKEMSNLEKKYSLQNESEVKNKKSIOSLHNOICFEEI 300
 QY 301 EIEROKEMLRNNEKSKILHLQRYIDSQAELKELDKETIRPFROMWEADSMKSSVESLQNR 360
 DB 301 EIEROKEMLRNNEKSKILHLQRYIDSQAELKELDKETIRPFROMWEADSMKSSVESLQNR 360
 QY 361 VTELESVDSKAGAVARNGLLESQSLSRHDOMLSVHDIRLADMDLRFOVLETAASYNGVLIW 420
 DB 361 VTELESVDSKAGAVARNGLLESQSLSRHDOMLSVHDIRLADMDLRFOVLETAASYNGVLIW 420
 QY 421 KIRDYRRRKOEAVMGKTLISYOPFTYGFYGYKMCARVYLNDGDMGKGTLSLFFVIMRG 480
 DB 421 KIRDYRRRKOEAVMGKTLISYOPFTYGFYGYKMCARVYLNDGDMGKGTLSLFFVIMRG 480

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OY 481 EYDALLPWFPOKQVTLMLMDGSSRRHLDARFPPDNSSFFKPTGEMNIASGCPVFAO 540
DB 481 EYDALLPWFPOKQVTLMLMDGSSRRHLDARFPPDNSSFFKPTGEMNIASGCPVFAO 540
OY 541 TVLENGTYIKDDTIFIKVIYVDTSDLPDP 568
DB 541 TVLENGTYIKDDTIFIKVIYVDTSDLPDP 568

RESULT 6
AAB67615
ID AAB67615 standard; Protein; 567 AA.
XX
AC AAB67615;
XX
DT 29-MAY-2001 (first entry)
XX
DE Amino acid sequence of human CD40 ligand.
XX
KW CD40 ligand; osteoblast cell death; apoptosis; bone loss;
KW osteoporosis; osteonecrosis; inflammatory arthritis; estrogen loss;
KW ovariectomy; hysterectomy; lupus nephritis; Takayasu's arteritis;
KW Wegener's granulomatosis; nephritis; myositis; scleroderma;
KW thrombocytopenia; asthma; lung disease; cancer.
XX
OS Homo sapiens.
XX
PN WO200116180-A2.
XX
PD 08-MAR-2001.
XX
PF 24-AUG-2000; 2000WO-US23276.
XX
PR 27-AUG-1999; 99US-0151250.
XX
PA (TEXA ) UNIV TEXAS SYSTEM.
XX
PI Ahuja SS, Bonewald LF;
XX
DR WPI: 2001-169007/17.
XX
DR N-PSDB; AAF55540.
XX
PT CD40 agonist containing composition, used to reduce bone cell death or
PT apoptosis associated with osteoporosis, osteonecrosis and inflammatory
PT arthritis -
XX
PS Disclosure; Page 116-118; 118pp; English.
XX
XX The present sequence represents a human CD40 ligand. CD40 ligands are
CC used for reducing osteoblast cell death or apoptosis, and for treating
CC or preventing bone loss in animals, preferably humans, at risk of,
CC or undergoing, bone loss. The bone loss is associated with osteoporosis,
CC osteonecrosis, inflammatory arthritis, post-menopausal oestrogen loss,
CC estrogen loss due to ovariectomy, total hysterectomy, lupus nephritis,
CC Takayasu's arteritis, Wegener's granulomatosis, anti-glomerular basement
CC membrane nephritis, myositis, scleroderma, idiopathic autoimmune
CC thrombocytopenia, asthma, a chronic obstructive lung disease,
CC nephrotic/nephritic syndrome, or cancer. They may also be used to
CC treat or prevent bone loss in a subject undergoing, or scheduled for,
CC an organ or bone marrow transplant.
XX
SQ Sequence 567 AA:

Query Match 99.1%; Score 2980.5; DB 22; Length 567;
Best Local Similarity 99.5%; Pred. No. 1.5e-236;
Matches 565; Conservative 0; Mismatches 2; Indels 1; Gaps 1;
OY 1 MESSKTKMDSPGALQTNPLKHTDRSAGTPVEFGGKKEFKVKEEDKRYCEKCHLV 60
DB 1 MESSKTKMDSPGALQTNPLKHTDRSAGTPVEFGGKKEFKVKEEDKRYCEKCHLV 60
OY 61 CSPKQTEGHRFCESCMALLSSSPKCTACQESIIVKRVFNDCKREILALQIYCRNE 120
DB 61 CSPKQTEGHRFCESCMALLSSSPKCTACQESIIVKRVFNDCKREILALQIYCRNE 120

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DB 61 CSPKQTEGHRFCESCMALLSSSPKCTACQESIIVKRVFNDCKREILALQIYCRNE 120
OY 121 SRGAEOULTLGLHLVHLKNOCHFEELPCVPDCKEXLRDLRDHYKACKYREATCSHC 180
DB 121 SRGAEOULTLGLH-LVHLKNDCHFEELPCVPDCKEXLRDLRDHYKACKYREATCSHC 179
OY 181 KSOYPMIALOKHEPTDCPCVVVSCPHKCSVQTLRLSELASHLSECVNAPSTCSFKRYGCV 240
DB 181 KSOYPMIALOKHEPTDCPCVVVSCPHKCSVQTLRLSELASHLSECVNAPSTCSFKRYGCV 239
OY 241 FQGTNQQIKAHESASAVOHVNLLEKWSNLSLEKVSLLQNESVEKNKSIOSLHNOICFEEI 300
DB 241 FQGTNQQIKAHESASAVOHVNLLEKWSNLSLEKVSLLQNESVEKNKSIOSLHNOICFEEI 299
OY 301 EIEROKEMLRNNESEKTLHLQVVIDSOAEKLELDKEIRPPRONMEEDSKSSVESIQNR 360
DB 301 EIEROKEMLRNNESEKTLHLQVVIDSOAEKLELDKEIRPPRONMEEDSKSSVESIQNR 359
OY 361 VTELESVDKSAGVARNITGLLESQLSRHDQMLSVHDIRLADMDLRFQVLETA SYNGVLIW 420
DB 361 VTELESVDKSAGVARNITGLLESQLSRHDQMLSVHDIRLADMDLRFQVLETA SYNGVLIW 419
OY 421 KIRDYKRRKQAVMGKTLISLSOPFTYGYEGYKKCAVYILNGDMGKGTLSLFEVIMRG 480
DB 421 KIRDYKRRKQAVMGKTLISLSOPFTYGYEGYKKCAVYILNGDMGKGTLSLFEVIMRG 479
OY 481 EYDALLPWFPOKQVTLMLMDGSSRRHLDARFPPDNSSFFKPTGEMNIASGCPVFAO 540
DB 481 EYDALLPWFPOKQVTLMLMDGSSRRHLDARFPPDNSSFFKPTGEMNIASGCPVFAO 539
OY 541 TVLENGTYIKDDTIFIKVIYVDTSDLPDP 568
DB 541 TVLENGTYIKDDTIFIKVIYVDTSDLPDP 567

RESULT 7
AAR9259
ID AAR9259 standard; Protein; 567 AA.
XX
AC AAR9259;
XX
DT 06-DEC-1996 (first entry)
XX
DE Full-length CD40 binding protein.
XX
KW CD40 binding protein; CD40bp; immunosuppressive; immune disorder;
KW antibody; therapy.
XX
OS Homo sapiens.
XX
FH Key Location/Qualifiers
FT Domain 49..97
FT /label= RING_finger_domain
FT Domain 266..376
FT /label= Coiled-coil_domain
XX
XX WO9628568-A1.
XX
XX 19-SEP-1996.
XX
XX 24-MAY-1995; 95WO-US06623.
XX
XX 13-MAR-1995; 95US-0404832.
XX
XX (UNMI ) UNIV MICHIGAN.
XX
XX Dixit VM;
XX
XX WPI: 1996-433838/43.
XX
XX N-PSDB; AAT35251.
XX
XX New isolated CD40 receptor binding protein - used to develop prods.
XX for use as immunosuppressive drugs and to treat immune disorders
PT

```

XX Example 5; Page 41-43; 65pp; English.

XX A novel human CD40 receptor binding protein (CD40bp) (AAR99259) has

CC the ability to bind the cytoplasmic region of the CD40 receptor.

CC Its amino acid sequence was deduced from a cDNA clone (AAT35251).

CC cDNA from a human B-cell cDNA expression library using a yeast

CC two-hybrid system. Recombinant CD40bp can be produced in

CC prokaryotic or eukaryotic host cells. It can be utilised in the

CC purification of CD40 receptors or the detection of CD40 in cell or

CC tissue samples. It is also useful as an immunogen for prodn. of

CC anti-CD40bp antibodies, and can be used in an *in vitro* assay

CC system to screen for immunosuppressant drugs.

XX Sequence 567 AA:

SQ

Query Match 98.8%; Score 2970.5; DB 17; Length 567;

Best Local Similarity 99.3%; Pred. No. 9.8e-236;

Matches 564; Conservative 0; Mismatches 3; Indels 1; Gaps 1;

QY 1 MESSKKMDSPGALQTNPLKLTHTDRSAGPVFVPEOGGYKKEKFKVTEDEKXCEKCHLV 60

DB 1 MESSKKMDSPGALQTNPLKLTHTDRSAGPVFVPEOGGYKKEKFKVTEDEKXCEKCHLV 60

QY 61 CSPKQTECGHRCFECSCMAALLSSSPKCTACQESIYKDVFFDNCKREILALQIYCRNE 120

DB 61 CSPKQTECGHRCFECSCMAALLSSSPKCTACQESIYKDVFFDNCKREILALQIYCRNE 120

QY 121 SRGCAQDLTGLHLVHLKNDCHFEELPCVRPCKEVLKLDLDRHYEAKCKREATCSHC 180

DB 121 SRGCAQDLTGLHLVHLKNDCHFEELPCVRPCKEVLKLDLDRHYEAKCKREATCSHC 179

QY 181 KSOVPMLALQKHEDTDCPCVVVSCPHKCSVQTLNSELSELSAHSECVNAPSTCSFRYGCY 240

DB 180 KSOVPMLALQKHEDTDCPCVVVSCPHKCSVQTLNSELSELSAHSECVNAPSTCSFRYGCY 239

QY 241 FCGTNOITAHRASSAVQVHNLKESNSLEKVKVSLLOESYEKKKSIOSLHNOICSEFI 300

DB 240 FCGTNOITAHRASSAVQVHNLKESNSLEKVKVSLLOESYEKKKSIOSLHNOICSEFI 299

QY 301 ETEROKEMLRNNEKSLIHLQRIYDSOAEKLELDEIRPFRONMEADSMKSSVESLQNR 360

DB 300 ETEROKEMLRNNEKSLIHLQRIYDSOAEKLELDEIRPFRONMEADSMKSSVESLQNR 359

QY 361 VTELESVDKSAQAVARNTGLLESQLSRHDQMLSVHDIRLADMDLRFQVLEFASYNGVLIW 420

DB 360 VTELESVDKSAQAVARNTGLLESQLSRHDQMLSVHDIRLADMDLRFQVLEFASYNGVLIW 419

QY 421 KIRDYKRRKQAEVAMKSTLSYQPPYTGFGYKMCARVYLANGDGKGTSLFVIMRG 480

DB 420 KIRDYKRRKQAEVAMKSTLSYQPPYTGFGYKMCARVYLANGDGKGTSLFVIMRG 479

QY 481 EYDALLPMPFKQVTLMLMDGSSRRHGDAPFPNNSSEFKPKPGENNTASGCVFPAQ 540

DB 480 EYDALLPMPFKQVTLMLMDGSSRRHGDAPFPNNSSEFKPKPGENNTASGCVFPAQ 539

QY 541 TVLENGYTIKDDTIFIKVIYDTSLLPDP 568

DB 540 TVLENGYTIKDDTIFIKVIYDTSLLPDP 567

RESULT 8

AAOI7756

ID AAOI7756 standard; protein: 567 AA.

XX AAOI7756:

AC 15-AUG-2002 (first entry)

DT Murine CD40 receptor-associated factor 1 (CRAF1).

XX Mouse; CD40 receptor-associated factor 1; CRAF1; organ rejection;

KW autoimmune disease; apoptosis; infection; fibrosis; liver disease.

KW kidney disease; vascular disease; gastrointestinal disease; vasotropic;

KW immunosuppressive; antiinflammatory; nephrotic; anti-allergic;

KW antineoplastic; anti-thyroid; antineoplastic; anti-arteriosclerotic;

KW dermatological; haemostatic; antidiabetic; antidiabetic; antidiabetic;

KW antiproliferative; bladder disease; human herpesvirus 4; Epstein-Barr virus.

OS Mus sp.

PN US2002031522-A1.

PD 14-MAR-2002.

PF 10-MAR-1997; 97US-0813323.

PR 11-MAR-1996; 96US-013199P.

XX (BALTY) BALTIMORE D.

XX (CHEN) CHENG G.

XX (YEZ) YE Z.

XX (LEDE) LEDERMAN S.

XX (CLEA) CLEARY A.

PI Baltimore D, Cheng G, Ye Z, Lederman S, Cleary A;

DR WPI: 2002-451449/48.

XX N-PSDB: AAL46792.

PT New CD40 receptor-associated factor 1 capable of inhibiting

PT CD40-mediated cell activation, useful for treating e.g. inflammatory

PT diseases, autoimmune diseases, allergic reaction, or organ transplant

PT rejection

XX Disclosure: Fig 1; 31pp; English.

PS The present invention relates to a protein comprising a CD40 receptor-

CC associated factor 1 (CRAF1) truncated by about 323 - 414 amino acid

CC residues at the amino terminus, or its variant, which is capable of

CC inhibiting CD40-mediated cell activation. The protein is useful for

CC treating a condition characterised by an aberrant or unwanted level of

CC CD40-mediated intracellular signalling, such as: organ rejection,

CC autoimmune diseases such as rheumatoid arthritis, myasthenia gravis,

CC systemic lupus erythematosus, Grave's disease, idiopathic

CC thrombocytopenia purpura, haemolytic anaemia, or diabetes mellitus, an

CC allergic response (e.g. hay fever or a penicillin allergy), a condition

CC dependant on CD40 ligand-induced activation of fibroblast cells (e.g.

CC arthritis, scleroderma, or fibrosis), a condition dependant on CD40-

CC ligand-induced activation of endothelial cells (e.g. atherosclerosis,

CC reperfusion injury, allograft rejection, organ rejection, or chronic

CC inflammatory autoimmune diseases, a condition dependant on CD40

CC ligand-induced activation of epithelial cells, specifically keratinocytes

CC (e.g. psoriasis), or an inflammatory kidney disease (e.g. membranous

CC glomerulonephritis, minimal change disease/acute tubular necrosis, pauci-

CC immune glomerulonephritis, or focal segmental glomerulosclerosis). The

CC present sequence is the murine CRAF1 protein.

XX

SQ Sequence 567 AA:

Query Match 96.0%; Score 2886.5; DB 23; Length 567;

Best Local Similarity 96.1%; Pred. No. 8.1e-229;

Matches 546; Conservative 7; Mismatches 14; Indels 1; Gaps 1;

QY 1 MESSKKMDSPGALQTNPLKLTHTDRSAGPVFVPEOGGYKKEKFKVTEDEKXCEKCHLV 60

DB 1 MESSKKMDSPGALQTNPLKLTHTDRSAGPVFVPEOGGYKKEKFKVTEDEKXCEKCHLV 59

QY 61 CSPKQTECGHRCFECSCMAALLSSSPKCTACQESIYKDVFFDNCKREILALQIYCRNE 120

DB 60 CSPKQTECGHRCFECSCMAALLSSSPKCTACQESIYKDVFFDNCKREILALQIYCRNE 119

QY 121 SRGCAQDLTGLHLVHLKNDCHFEELPCVRPCKEVLKLDLDRHYEAKCKREATCSHC 180

DB 120 SRGCAQDLTGLHLVHLKNDCHFEELPCVRPCKEVLKLDLDRHYEAKCKREATCSHC 179

QY 181 KSOYPMIALQKHEDTDCPCVAVSCPHKCSVQTLRLSELNHLSECVNAPSTCSFKRYGCV 240
 DB 180 KSOYPMIALQKHEDTDCPCVAVSCPHKCSVQTLRLSELNHLSECVNAPSTCSFKRYGCV 239
 QY 241 FOGTNOQIKAHKHAASSAVOHVNLKEMNSLEKRVSLQNSSEVENKNSIOSLHNOICSFEL 300
 DB 240 FOGTNOQIKAHKHAASSAVOHVNLKEMNSLEKRVSLQNSSEVENKNSIOSLHNOICSFEL 299
 QY 301 EIEROKEMLRNNESKILHLQVIDSQAEKLELDEKREIRPROMNEADSKSSVESLQNR 360
 DB 300 EIEROKEMLRNNESKILHLQVIDSQAEKLELDEKREIRPROMNEADSKSSVESLQNR 359
 QY 361 VTELESVKSAGQVARNGLLESQLSRHDQTLVSHDIRLADMDLRFQVLETAASYNGVLIW 420
 DB 360 VTELESVKSAGQVARNGLLESQLSRHDQTLVSHDIRLADMDLRFQVLETAASYNGVLIW 419
 QY 421 KIRDYKRRKQEAHVNGKTLSTYSOPFTYGYFGYKMCARVYLNGDGMKGKTHLSLFFVIMRG 480
 DB 420 KIRDYKRRKQEAHVNGKTLSTYSOPFTYGYFGYKMCARVYLNGDGMKGKTHLSLFFVIMRG 479
 QY 481 EYDALLPMPFKOKVTLMLMDGSSRRHLGDAFKDPDPNSSFFKKTGEMNITASGCPVFAQ 540
 DB 480 EYDALLPMPFKOKVTLMLMDGSSRRHLGDAFKDPDPNSSFFKKTGEMNITASGCPVFAQ 539
 QY 541 TVLENGTYIKDDTIFIKVIVDTSDLPDP 568
 DB 540 TVLENGTYIKDDTIFIKVIVDTSDLPDP 567

RESULT 9

ABB57054
 ID ABB57054 standard; Protein: 567 AA.

ABB57054;

07-MAR-2002 (first entry)

Mouse ischaemic condition related protein sequence SPQ ID NO:98.

Mouse; ischaemia; compressive ischaemia; occlusive ischaemia;
 vasospastic ischaemia; ischaemic condition; ischaemic disease.

Mus musculus.

WO200168188-A2.

22-NOV-2001.

18-MAY-2001; 2001WO-JP04192.

18-MAY-2000; 2000JP-0145977.

(UYN1-) UNIV NIHON SCHOOL JURIDICAL PERSON.

Ishikawa K, Asai S, Takahashi Y, Nagata T, Ishii Y;

WPI: 2002-034733/04.

N-PSDB: AB199264.

Examining the ischemic condition (e.g. occlusive ischemia) by measuring
 expression levels of particular genes defined in the specification or
 by determining the expression profile of a gene group comprising these
 genes -

Claim 2; Page 297-300; 2690pp; English.

The present invention describes a method for examining ischemic
 conditions, comprising measuring the expression levels of particular
 genes (I) in a test sample or determining the expression profile of a
 gene group in the sample comprising genes selected from (I). The method
 is useful for examining the ischemic condition (e.g. compressive
 ischemia, occlusive ischemia or vasospastic ischemia) by measuring
 expression levels of particular genes (AB199202 to AB199912, encoding

CC the protein sequences in ABB57020 to ABB57374) or by determining the
 CC expression profile of a gene group comprising these genes. The
 CC expression levels or expression profiles produced by these genes are
 CC used as an indicator when screening for ischemic condition-improving
 CC drugs or therapeutics for ischemic diseases. AB199913 and AB199914
 CC represent PCR primers for a mouse ischemic condition related sequence,
 CC which are used in the exemplification of the present invention.

SO Sequence 567 AA:

Query Match 95.7%; Score 2878.5; DB 23; Length 567;

Best Local Similarity 96.0%; Pred. No. 3.7e-228; Mismatches 14; Indels 1; Gaps 1;

Matches 545; Conservative 8; Mismatches 14; Indels 1; Gaps 1;

QY 1 MESSKKMDSPGALQOTNPPLKLTDRSAGTFVPEDEGGYKKEKVKTEDEKRCCKHVL 60
 DB 1 MESSKKMDSPGALQOTNPPLKLTDRSAGTFVPEDEGGYKKEKVKTEDEKRCCKHVL 59
 QY 61 CSPKOTECGHRFCESCMALLSSSSPKTACQESIVKDKVFNCKCKRETLAQIYCRNE 120
 DB 60 CNPKOTECGHRFCESCMALLSSSSPKTACQESIIKDKVFNCKCKRETLAQIYCRNE 119
 QY 121 SRGAEQTLTGHLIVHKNCHFEELPCVPRDCKEVLKRDLDHYEKACKYREATCSHC 180
 DB 120 GRGAEQTLTGHLIVHKNCHFEELPCVPRDCKEVLKRDLDHYEKACKYREATCSHC 179
 QY 181 KSOYPMIALQKHEDTDCPCVAVSCPHKCSVQTLRLSELNHLSECVNAPSTCSFKRYGCV 240
 DB 180 KSOYPMIALQKHEDTDCPCVAVSCPHKCSVQTLRLSELNHLSECVNAPSTCSFKRYGCV 239
 QY 241 FOGTNOQIKAHKHAASSAVOHVNLKEMNSLEKRVSLQNSSEVENKNSIOSLHNOICSFEL 300
 DB 240 FOGTNOQIKAHKHAASSAVOHVNLKEMNSLEKRVSLQNSSEVENKNSIOSLHNOICSFEL 299
 QY 301 EIEROKEMLRNNESKILHLQVIDSQAEKLELDEKREIRPROMNEADSKSSVESLQNR 360
 DB 300 EIEROKEMLRNNESKILHLQVIDSQAEKLELDEKREIRPROMNEADSKSSVESLQNR 359
 QY 361 VTELESVKSAGQVARNGLLESQLSRHDQTLVSHDIRLADMDLRFQVLETAASYNGVLIW 420
 DB 360 VTELESVKSAGQVARNGLLESQLSRHDQTLVSHDIRLADMDLRFQVLETAASYNGVLIW 419
 QY 421 KIRDYKRRKQEAHVNGKTLSTYSOPFTYGYFGYKMCARVYLNGDGMKGKTHLSLFFVIMRG 480
 DB 420 KIRDYKRRKQEAHVNGKTLSTYSOPFTYGYFGYKMCARVYLNGDGMKGKTHLSLFFVIMRG 479
 QY 481 EYDALLPMPFKOKVTLMLMDGSSRRHLGDAFKDPDPNSSFFKKTGEMNITASGCPVFAQ 540
 DB 480 EYDALLPMPFKOKVTLMLMDGSSRRHLGDAFKDPDPNSSFFKKTGEMNITASGCPVFAQ 539
 QY 541 TVLENGTYIKDDTIFIKVIVDTSDLPDP 568
 DB 540 TVLENGTYIKDDTIFIKVIVDTSDLPDP 567

RESULT 10

AAW27432
 ID AAW27432 standard; Protein: 543 AA.

AAW27432;

27-MAR-1998 (first entry)

Human CRAF1 isoform p55del9.

CD40 receptor associated factor 1; CRAF-1; TRAF-3; p55; human;
 CD40 mediated intracellular signaling; organ rejection; allergy;
 hay fever; autoimmune disease; systemic lupus erythematosus;
 rheumatoid arthritis; myasthenia gravis; Graves' disease;
 idiopathic thrombocytopenia purpura; haemolytic anaemia;
 diabetes mellitus; psoriasis; hyper immunoglobulin E syndrome;
 apoptosis; Rieger's syndrome; spondyloarthritis; Lyme disease; HIV;
 syphilis; tuberculosis; arthritis; scleroderma; pulmonary fibrosis;

KM pneumoconiosis; adult respiratory distress syndrome; pneumonia; asbestosis; silicosis; Farmer's lung; hepatitis; cirrhosis; KM atherosclerosis; multiple sclerosis; glomerulonephritis; KM glomerulonephritis; glomerulopathy; kidney disease; nephropathy; KM endocarditis; leprosy; malaria; Goodpasture's disease; KM Henoch-Schoenlein purpura; polyarteritis; multiple myeloma; KM Wegener's granulomatosis; cryoglobulinemia; KM Waldenstrom's macroglobulinemia; amyloidosis; Sjogren's syndrome; KM AIDS; oesophageal dysmotility; inflammatory bowel disease; KM bladder disease; Epstein-Barr virus; mononucleosis; B cell tumour; KM Burkitt's lymphoma; nasopharyngeal carcinoma; pneumonia; KM gene therapy; diagnosis.

XX Homo sapiens.

XX Key Location/Qualifiers

XX Region 117..141

FT /note= "zinc finger 1 (2n binding to Cys-117, Cys-124, His-136 and Cys-141)." FT 148..170

FT /note= "zinc finger 2 (zinc binding to Cys-148, Cys-153, His-165 and Cys-170)." FT 177..197

FT Region /note= "zinc finger 3 (2n binding to Cys-177, Cys-180, His-192 and Cys-197)." FT 177..197

XX WO9734473-A1.

XX 25-SEP-1997.

XX 21-MAR-1997; 97WO-0505076.

XX 18-SEP-1996; 96US-0026584.

XX 21-MAR-1996; 96US-0013820.

XX 01-MAY-1996; 96US-0016626.

XX 01-MAY-1996; 96US-0016659.

XX (UYCO) UNIV COLUMBIA NEW YORK.

PI Cleary AM, Frank DM, Lederman S; WPI: 1997-479907/44. DR N-PSDB: AAT90123.

XX Protein comprising CRAF1-b domain capable of inhibiting CD40 mediated cell activation - useful to treat conditions characterised by aberrant or unwanted level of CD40 mediated intracellular signalling

XX Example 1; Fig 1D-O; 158bp; English.

XX This polypeptide comprises a CRAF1 (TRAF-3) isoform designated p55del9. It is encoded by exons 4-8 and 10-13 of the human CRAF gene (see AAT90123) and arises by alternative splicing of the sequence for CRAF1-a (see AAW27431), a signalling protein that interacts with the cytoplasmic tail of B cell surface molecule CD40 and which mediates a variety of T-dependent effects on B cell activation and differentiation. A higher mol.wt. CRAF1, designated CRAF1b (see AAW27428), has also been identified, as well as isoforms p5 (see AAW27429), p15 (see AAW27430) and variants of CRAF1-a and CRAF1-b (see AAW27432-37) that comprise different combinations of 5 zinc fingers. CRAF1 peptides, comprising from 0-4 zinc finger domains, and nucleic acids encoding them, can be used to inhibit CD40 ligand activation of cells that express CD40 on their surface, particularly by introducing a nucleic acid molecule into the cells, and used to treat conditions characterised by an aberrant or unwanted level of CD40 mediated intracellular signalling, such as organ rejection, or a CD40 dependent immune response in a subject receiving gene therapy. The condition may be an allergic response or an autoimmune response, or may be dependent on CD40 ligand-induced activation of epithelial cells, an inflammatory kidney disease, a smooth muscle cell-dependent disease, or a condition associated with Epstein-Barr virus.

XX Sequence 543 AA:

XX SQ Query Match 94.7%; Score 2647.5; DB: 18; Length 543; Best local Similarity 95.6%; Pred. No. 1,2e-225; Matches 543; Conservative 0; Mismatches 0; Indels 25; Gaps 1;

QY 1 MESSKKNDSPGALQTNPPKLTHTDRSAGTPVPEEGGKYEKEKFTVEDKTCCECHVL 60

Db 1 MESSKKNDSPGALQTNPPKLTHTDRSAGTPVPEEGGKYEKEKFTVEDKTCCECHVL 60

QY 61 CSPKQTECGHRCFECSCMAALLSSSPKTCACQESIVKDKVFQDNCKREITLALQTYCNE 120

Db 61 CSPKQTECGHRCFECSCMAALLSSSPKTCACQESIVKDKVFQDNCKREITLALQTYCNE 120

QY 121 SRGCAQDLTGLHLVHLKNDCHFEELPCVRPCKEKVLRKDLRDVVERACKYREATCSHC 180

Db 121 SRGCAQDLTGLHLVHLKNDCHFEELPCVRPCKEKVLRKDLRDVVERACKYREATCSHC 180

QY 181 KSGVPMIALQKHEDTDCPCVVVSCPHKCSVQTLRSELSAHLSECVNAPSTCSFKRYGCV 240

Db 181 KSGVPMIALQKHEDTDCPCVVVSCPHKCSVQTLRSELSAHLSECVNAPSTCSFKRYGCV 240

QY 241 FOSTNOITAHFSSAVQVNVNLKESNSLEKVSLLONESYEKKKSIGSLHNOICSEFI 300

Db 218 --GTNOITAHFSSAVQVNVNLKESNSLEKVSLLONESYEKKKSIGSLHNOICSEFI 275

QY 301 EIERQKEMLRNNESKILHQRVIDSOAEKLEKDEIRPFQNNWEADSMKSSVESIQNR 360

Db 276 EIERQKEMLRNNESKILHQRVIDSOAEKLEKDEIRPFQNNWEADSMKSSVESIQNR 335

QY 361 VPELESVDKSAQVARNGLLESQLSRHDQMLSVHDIRLADMDLRFQVLETSYNGVLW 420

Db 336 VPELESVDKSAQVARNGLLESQLSRHDQMLSVHDIRLADMDLRFQVLETSYNGVLW 395

QY 421 KIRDYKRRKQEAVMGKTSLSYQPFYTGFGYKMCARYLMDGMGCTHLSLEFVIMRG 480

Db 396 KIRDYKRRKQEAVMGKTSLSYQPFYTGFGYKMCARYLMDGMGCTHLSLEFVIMRG 455

QY 481 EYDALLPMPFKQKVTLMMDQSSRRHLGDAFKDPDNPSSSFKKPTGEMNTASGCPVFAQ 540

Db 456 EYDALLPMPFKQKVTLMMDQSSRRHLGDAFKDPDNPSSSFKKPTGEMNTASGCPVFAQ 515

QY 541 TVLENGTYIKDDTIFIKYIVDTSDDPP 568

Db 516 TVLENGTYIKDDTIFIKYIVDTSDDPP 543

RESULT 11

AAW27433

ID AAW27433 standard; Protein: 665 AA.

XX AAW27433;

XX 27-MAR-1998 (first entry)

XX Human CRAF1-b isoform p70del9.

XX CD40 receptor associated factor 1; CRAF1-b; TRAF-3; p70; human; CD40 mediated intracellular signalling; organ rejection; allergy; hay fever; autoimmune disease; systemic lupus erythematosus; rheumatoid arthritis; myasthenia gravis; Graves' disease; idiopathic thrombocytopenia purpura; haemolytic anaemia; diabetes mellitus; psoriasis; hyper immunoglobulin E syndrome; apoptosis; Rieters's syndrome; spondylarthritis; Lyme disease; HIV; syphilis; tuberculosis; arthritis; scleroderma; pulmonary fibrosis; pneumoconiosis; adult respiratory distress syndrome; pneumonia; asbestosis; silicosis; Farmer's lung; hepatitis; cirrhosis; atherosclerosis; multiple sclerosis; glomerulonephritis; glomerulonephritis; glomerulopathy; kidney disease; nephropathy; Henoch-Schoenlein purpura; polyarteritis; multiple myeloma; Wegener's granulomatosis; cryoglobulinemia;

KM Waldenstrom's macroglobulinemia; amyloidosis; Sjogren's syndrome;
 KM AIDS; oesophageal dysmotility; inflammatory bowel disease;
 KM bladder disease; Epstein-Barr virus; mononucleosis; B cell tumour;
 KM Burkitt's lymphoma; nasopharyngeal carcinoma; pneumonia;
 KM gene therapy; diagnosis.
 XX Homo sapiens.
 XX
 XX
 XX Key Location/Qualifiers
 XX 52..122
 XX Domain /label= "CRAF-b domain
 XX /note= "Claim 1"
 XX
 XX Region 239..263
 XX /note= "Zinc finger 1 (Zn binding to Cys-239,
 XX Cys-246, His-258 and Cys-263)"
 XX
 XX Region 270..292
 XX /note= "Zinc finger 2 (zinc binding to Cys-270,
 XX Cys-275, His-287 and Cys-292 "
 XX
 XX Region 299..319
 XX /note= "Zinc finger 3 (Zn binding to Cys-299,
 XX Cys-302, His-314 and Cys-319"
 XX
 XX Binding-site 16..19
 XX /note= "putative SH3 binding motif"
 XX
 XX Binding-site 44..47
 XX /note= "putative SH3 binding motif"
 XX
 XX Binding-site 103..110
 XX /note= "putative SH3 binding motif"
 XX
 XX
 XX MO9734473-A1.
 XX
 XX
 XX 25-SEP-1997.
 XX
 XX
 XX 21-MAR-1997; 97WO-US05076.
 XX
 XX
 XX 18-SEP-1996; 96US-0026584.
 XX 21-MAR-1996; 96US-0013820.
 XX 01-MAY-1996; 96US-0016626.
 XX 01-MAY-1996; 96US-0016659.
 XX
 XX (UYCO) UNIT COLUMBIA NEW YORK.
 XX
 XX Cleary AM, Frank DM, Lederman S;
 XX
 XX WPI: 1997-479907/44.
 XX N-PSDB: AAT90123.
 XX
 XX Protein comprising CRAF1-b domain capable of inhibiting CD40
 XX mediated cell activation - useful to treat conditions characterised
 XX by aberrant or unwanted level of CD40 mediated intracellular
 XX signalling
 XX
 XX Example 1; Fig 1A-O; 158pp; English.
 XX
 XX This polypeptide comprises a CRAF1 (TRAF-3) protein designated
 XX p70del9 that is encoded by exons 1-2, 4-8 and 10-13 of the human
 XX CRAF gene (see AAT90123). Different isoforms (AAW27428-37) of CRAF1
 XX have been identified that arise from alternative splicing. CRAF1
 XX peptides comprising from 0-4 zinc finger domains, and nucleic acids
 XX encoding them, can be used to inhibit CD40 ligand activation of
 XX cells that express CD40 on their surface, particularly by
 XX introducing the nucleic acid molecule into the cells, and used to
 XX treat conditions characterised by an aberrant or unwanted level of
 XX CD40 mediated intracellular signalling, such as organ rejection, or
 XX a CD40 dependent immune response in a subject receiving gene
 XX therapy. The condition may be an allergic response or an
 XX autoimmune response, or may be dependent on CD40 ligand-induced
 XX activation of epithelial cells, an inflammatory kidney disease, a
 XX smooth muscle cell-dependent disease, or a condition associated
 XX with Epstein-Barr virus.
 XX
 XX Sequence 665 AA;
 XX
 XX Query Match 94.7%; Score 2847.5; DB 18; Length 665;

Best Local Similarity 95.6%; Pred. No. 1.7e-225;
 Matches 543; Conservative 0; Mismatches 0; Indels 25; Gaps 1;
 QY 1 MESSKKKDSGALQITNPPLKLTDRSAGTPVPVPEGGKKEKFKVTVDDKYCKECHLVL 60
 Db 123 MESSKKKDSGALQITNPPLKLTDRSAGTPVPVPEGGKKEKFKVTVDDKYCKECHLVL 182
 QY 61 CSPKQTECGHRCFSCGMAALLSSSSPKTACQESIYKDKVFKFNCCKREIILALQYCRNE 120
 Db 183 CSPKQTECGHRCFSCGMAALLSSSSPKTACQESIYKDKVFKFNCCKREIILALQYCRNE 242
 QY 121 SRGCAEQLTGLHLVHLKNDCHFEELPCVRPDCKEVYLKDLRDHYERACKYREATCSHC 180
 Db 243 SRGCAEQLTGLHLVHLKNDCHFEELPCVRPDCKEVYLKDLRDHYERACKYREATCSHC 302
 QY 181 KSOVPMIALOKHEDTDCPCVAVSCPHKCSYQTLIRSE----- 339
 Db 303 KSOVPMIALOKHEDTDCPCVAVSCPHKCSYQTLIRSE----- 339
 QY 241 FQGTNOQIKAHKASAVOHVNLKEMSNLSLEKRVSLQNESYEKNKSIOSLHNOICSEFI 300
 Db 340 --GTNOQIKAHKASAVOHVNLKEMSNLSLEKRVSLQNESYEKNKSIOSLHNOICSEFI 397
 QY 301 EIERQKEMLRNNEKIIHLQVVIDSOAEKLEIKETIRPPROWMERADSMKSSVESLQNR 360
 Db 398 EIERQKEMLRNNEKIIHLQVVIDSOAEKLEIKETIRPPROWMERADSMKSSVESLQNR 457
 QY 361 VTELESVDKSAGVARNRTGLLESQLSRHDQMLSVHDIRLADMRLRQVLETASYNGLTM 420
 Db 458 VTELESVDKSAGVARNRTGLLESQLSRHDQMLSVHDIRLADMRLRQVLETASYNGLTM 517
 QY 421 KIRDYKRRKQBAVMGKTLSTYSQPFYTGFGYKMCARVYLNGDMGKGTHLSTFVIIMG 480
 Db 518 KIRDYKRRKQBAVMGKTLSTYSQPFYTGFGYKMCARVYLNGDMGKGTHLSTFVIIMG 577
 QY 481 EYDALLPMPFQKVTLMMDGSSRRHLGDAFPDPSSSEKFKPTGEMNIAACGPFVAVQ 540
 Db 578 EYDALLPMPFQKVTLMMDGSSRRHLGDAFPDPSSSEKFKPTGEMNIAACGPFVAVQ 637
 QY 541 TVLENGTYIKDDTIFIKIVYDTSDDPP 568
 Db 638 TVLENGTYIKDDTIFIKIVYDTSDDPP 665
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 AAR98833
 ID AAR98833 standard; Protein: 543 AA.
 AC AAR98833;
 XX 23-MAR-1998 (first entry)
 XX
 XX CD40 associated protein (CAP)-1.
 XX
 XX CD40 associated protein: CAP; agonist; antagonist; gene therapy;
 XX cell proliferation; treatment; cancer; autoimmune disease.
 XX
 XX Homo sapiens.
 XX
 XX
 XX Key Location/Qualifiers
 XX 53..91
 XX Domain /note= "RING finger domain"
 XX 117..141
 XX Domain /note= "Zinc finger domain 1"
 XX 148..170
 XX Domain /note= "Zinc finger domain 2"
 XX 177..197
 XX Domain /note= "Zinc finger domain 3"
 XX 384..540
 XX Domain /note= "TRAF domain"
 XX
 XX MO961665-A1.
 XX

CC This is CD40 associated protein (CAP)-1. This CAP is a protein that
CC specifically binds to CD40, a cell surface receptor involved in
CC apoptosis. Agonists and antagonists of CAP can increase or decrease
CC the level of CAP expression in a cell and can thereby modulate the
CC function of the cell. Such compounds can be used to treat cancer,
CC autoimmune diseases like asthma, hay fever, rheumatoid arthritis and
CC immunodeficiency diseases and neurodegeneration. Antibodies that bind
CC specifically to CAP can be used to assay CAP, to detect pathologically
CC altered levels. The encoding nucleic acid can be used to identify
CC related genes and to express CAP for gene therapy.

Qy	1	MESSKMSBPGLQJNPNPLKLTDBSACTPVFVBEQGGYKEKPKYTEDXKCEKCHLV	60
Db	1	MESSKMSBPGLQJNPNPLKLTDBSACTPVFVBEQGGYKEKPKYTEDXKCEKCHLV	60
Qy	61	CSBPQTECHSRCECSOMALLSSSSPKCTACQESTIVDKYKDNCKCRETLAQICRNB	120
Db	61	CSBPQTECHSRCECSOMALLSSSSPKCTACQESTIVDKYKDNCKCRETLAQICRNB	120
Qy	121	SRGCAQLTLGHLVHLKNDCHFEELPCVPBDCKEYVLRDLRDHYEKACKYREATCSHC	180
Db	121	SRGCAQLTLGHLVHLKNDCHFEELPCVPBDCKEYVLRDLRDHYEKACKYREATCSHC	180
Qy	181	KSQVPVIALQKHEDDCCVYVSCCHKCSVOTLLRSELASHLSECVNABPSCFKNRGCV	240
Db	181	KSQVPVIALQKHEDDCCVYVSCCHKCSVOTLLRSE-----	217
Qy	241	FOSTNOQIKAHASSAVOHNILKEMSNLSLEKYSLIÖNESVEKNKSIOSLHÖICSEFI	300
Db	218	--GTNOQIKAHASSAVOHNILKEMSNLSLEKYSLLIÖNESVEKNKSIOSLHÖICSEFI	275
Qy	301	ETEROKEMLRNNESEILHLQRYIDSOAEKLELDEKEITRPERONWMEADSKSSVESLQNR	360
Db	276	ETEROKEMLRNNESEILHLQRYIDSOAEKLELDEKEITRPERONWMEADSKSSVESLQNR	335
Qy	361	VTELESYVKSAGAVARNTEGLLESOLSRHDQMLSVHDIRLADMJLRQVLETASYNGVLTM	420
Db	336	VTELESYVKSAGAVARNTEGLLESOLSRHDQMLSVHDIRLADMJLRQVLETASYNGVLTM	395
Qy	421	KTRDVKRRKQEAVMGKTLSTLSQPFYIGYGYKKACAVYLVNGGOMKGTHLSLFPYIMNG	480
Db	396	KTRDVKRRKQEAVMGKTLSTLSQPFYIGYGYKKACAVYLVNGGOMKGTHLSLFPYIMNG	455
Qy	481	EYDALLPMPFKOKVYVLMIMDQSSRRRLGDAFKDPDPSSSFFKPTGEMNIASGCPYFAVO	540
Db	456	EYDALLPMPFKOKVYVLMIMDQSSRRRLGDAFKDPDPSSSFFKPTGEMNIASGCPYFAVO	515
Qy	541	TVLENGYTIKDDTLFIKIVYDTSJLDPDP	568

Practical exercises and assignments

Protein comprising CRAF1-b domain capable of inhibiting CD40

mediated cell activation - useful to treat conditions characterised by aberrant or unwanted level of CD40 mediated intracellular signalling

Example 1; Fig 1A-O; 158bp; English.

This polypeptide comprises a CRAF1 (TRAF-3) protein designated p'0del18,9 that is encoded by exons 1-2, 4-7 and 10-13 of the human CRAF gene (see AAT90123). Different isoforms (AAW27428-37) of CRAF1 have been identified that arise from alternative splicing. CRAF1 peptides comprising from 0-4 zinc finger domains, and nucleic acids encoding them, can be used to inhibit CD40 ligand activation of cells that express CD40 on their surface, particularly by introducing the nucleic acid molecule into the cells, and used to treat conditions characterised by an aberrant or unwanted level of CD40 mediated intracellular signalling, such as organ rejection, or a CD40 dependent immune response in a subject receiving gene therapy. The condition may be an allergic response or an autoimmune response, or may be dependent on CD40 ligand-induced activation of epithelial cells, an inflammatory kidney disease, a smooth muscle cell-dependent disease, or a condition associated with Epstein-Barr virus.

Sequence 516 AA;

Query Match 89.1%; Score 2680; DB 18; Length 516;
Best Local Similarity 90.8%; Pred. No. 7.1e-212;
Matches 516; Conservative 0; Mismatches 0; Indels 52; Gaps 1;

1 MESSKMDSPGALQTNPLKLTHTDSAGTPVFPDGGYKKEKFKVTVBDEKCYKCEKCHLVL
1 MESSKMDSPGALQTNPLKLTHTDSAGTPVFPDGGYKKEKFKVTVBDEKCYKCEKCHLVL
61 CSPKTEGCHRFCECMAALLSSSPKCTACQESIVKRVKVKDKNCKREIILALQIYCRNE
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61 CSPKTEGCHRFCECMAALLSSSPKCTACQESIVKRVKVKDKNCKREIILALQIYCRNE
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121 SSGCAEOLTLGLHLVHLKNDCHFEELPCVRPCKEKVKRDLRDHVEACQKREATCSHC
121 SSGCAEOLTLGLHLVHLKNDCHFEELPCVRPCKEKVKRDLRDHVEACQKREATCSHC
181 KSOVPMIALQKHEDYDCPCVVVSCPHKCSVQTLRSELSAHLSECVNAPSTCSEKRYGCY
181 KSOVPMIALQKHEDYDCPCVVVSCPHKCSVQTLRSELSAHLSECVNAPSTCSEKRYGCY
181 KSOVPMIALQKHEDYDCPCVVVSCPHKCSVQTLRSELSAHLSECVNAPSTCSEKRYGCY
241 PGCTNOQITAHBASSAYOHVNLKEMNSLEKKVSLQNESYEKKKSIOSLHNOICSPFI
241 PGCTNOQITAHBASSAYOHVNLKEMNSLEKKVSLQNESYEKKKSIOSLHNOICSPFI
190 -OGTNOQITAHBASSAYOHVNLKEMNSLEKKVSLQNESYEKKKSIOSLHNOICSPFI
301 EIEROKEMLRNNEKSLHLQRYIDSOAEKLELDEIRPFROMWEADSMKSSVESLQNR
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249 EIEROKEMLRNNEKSLHLQRYIDSOAEKLELDEIRPFROMWEADSMKSSVESLQNR
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361 VTELESVDKSAQOVARNTGLSLSQSRHDQMSVHDIRLADMDLRFQVLETASYNGVLIW
309 VTELESVDKSAQOVARNTGLSLSQSRHDQMSVHDIRLADMDLRFQVLETASYNGVLIW
421 KIRDYKRRKQEAVMGKTLISLYSOPFTGTGFGYKMCARVYLNDGKMGKTHLSLFVIMRG
421 KIRDYKRRKQEAVMGKTLISLYSOPFTGTGFGYKMCARVYLNDGKMGKTHLSLFVIMRG
369 KIRDYKRRKQEAVMGKTLISLYSOPFTGTGFGYKMCARVYLNDGKMGKTHLSLFVIMRG
481 EYDALLPWFPEKOKVTLMLMDQSSRRHLGDAFKPPNNSSEFKKPTGEMNIAAGCEPVFAO
481 EYDALLPWFPEKOKVTLMLMDQSSRRHLGDAFKPPNNSSEFKKPTGEMNIAAGCEPVFAO
429 EYDALLPWFPEKOKVTLMLMDQSSRRHLGDAFKPPNNSSEFKKPTGEMNIAAGCEPVFAO
541 TVLENGTIYKDDTIFIKVIVYSDLPDP 568
489 TVLENGTIYKDDTIFIKVIVYSDLPDP 516

AAW27437; (first entry)

27-MAR-1998

Human CRAF1-b isoform p'0del18,9.

CD40 receptor associated factor 1; CRAF1-b; TRAF-3; p'70; human; CD40 mediated intracellular signalling; organ rejection; allergy; hay fever; autoimmune disease; systemic lupus erythematosus; rheumatoid arthritis; myasthenia gravis; Graves' disease; idiopathic thrombocytopenia purpura; haemolytic anaemia; diabetes mellitus; psoriasis; hyper immunoglobulin E syndrome; Kaposi's sarcoma; spondyloarthritis; Lyme disease; HIV; apoptosis; Rickettsia; arthritis; scleroderma; pulmonary fibrosis; syphilis; tuberculosis; arthritis; scleroderma; multiple myeloma; Kaposi's sarcoma; Farmer's lung; hepatitis; cirrhosis; asbestosis; silicosis; multiple sclerosis; glomerulonephritis; Kaposi's sarcoma; glomerulonephritis; kidney disease; nephropathy; Kaposi's sarcoma; Goodpasture's disease; Henoch-Schoenlein purpura; polyarteritis; multiple myeloma; Wegener's granulomatosis; cryoglobulinemia; Waldenstrom's macroglobulinemia; amyloidosis; Sjogren's syndrome; AIDS; oesophageal dysmotility; inflammatory bowel disease; bladder disease; Epstein-Barr virus; mononucleosis; B cell tumour; Burkitt's lymphoma; nasopharyngeal carcinoma; pneumonia; gene therapy; diagnosis.

Homo sapiens.

Key Location/Qualifiers
Domain 52..122
/label="CRAF-b-domain
/note="Claim 1"
Region 239..263
/note="zinc finger 1 (2n binding to Cys-239, Cys-246, His-258 and Cys-263)"
Region 270..292
/note="zinc finger 2 (zinc binding to Cys-270, Cys-275, His-287 and Cys-292)"
Binding-site 16..19
/note="putative SH3 binding motif"
Binding-site 44..47
/note="putative SH3 binding motif"
Binding-site 103..110
/note="putative SH3 binding motif"

WO9734473-A1.

25-SEP-1997.

21-MAR-1997; 97WO-US05076.

18-SEP-1996; 96US-0026584.
21-MAR-1996; 96US-0013820.
01-MAY-1996; 96US-0016626.
01-MAY-1996; 96US-0016659.

(UYCO) UNIV COLUMBIA NEW YORK.

Cleary AM, Frank DM, Lederman S;
WPI; 1997-479907/44.
N-PSDB; AAT90123.

Protein comprising CRAF1-b domain capable of inhibiting CD40 mediated cell activation - useful to treat conditions characterised by aberrant or unwanted level of CD40 mediated intracellular signalling

Example 1; Fig 1A-O; 158bp; English.

This polypeptide comprises a CRAF1 (TRAF-3) protein designated

CC p70del1.9 that is encoded by exons 1-2, 4-7 and 10-13 of the human
 CC CRAF gene (see AAW27434). Different isoforms (AAW27428-27) of CRAF1
 CC have been identified that arise from alternative splicing. CRAF1
 CC peptides comprising from 0-4 zinc finger domains, and nucleic acids
 CC encoding them, can be used to inhibit CD40 ligand activation of
 CC cells that express CD40 on their surface, particularly by
 CC introducing the nucleic acid molecule into the cells, and used to
 CC treat conditions characterised by an aberrant or unwanted level of
 CC CD40 mediated intracellular signalling, such as organ rejection, or
 CC therapy. The condition may be an allergic response or an
 CC autoimmune response, or may be dependent on CD40 ligand-induced
 CC activation of epithelial cells, an inflammatory kidney disease, a
 CC smooth muscle cell-dependent disease, or a condition associated
 CC with Epstein-Barr virus.

XX Sequence 638 AA:

Query Match 89.1%; Score 2680; DB 18; Length 638;
 Best Local Similarity 90.8%; Pred. No. 9.7e-212;
 Matches 516; Conservative 0; Mismatches 0; Indels 52; Gaps 1;

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DB 123 MESSKMDSPGALQTNPKLHTSDSAGPVPEPGGKKEKFKVTVEDKCKCKCHYL 182
0Y 61 CSPKQTECHRCESCMALLSSSPKCTACQESTIVKDKVCKCKCKREILALQICRNE 120
DB 183 CSPKQTECHRCESCMALLSSSPKCTACQESTIVKDKVCKCKCKREILALQICRNE 242
0Y 121 SRGCAQLTGLHLVHLKDKCHFEEPCVPRPCKKVKYRKDLRDHVEKACKYREATCSHC 180
DB 243 SRGCAQLTGLHLVHLKDKCHFEEPCVPRPCKKVKYRKDLRDHVEKACKYREATCSHC 302
0Y 181 KSOVPALALQKHEDTDCPCVVVSCPHKCSVOQLRLSELASHLSECVANSPCSKRRGCV 240
DB 303 KSOVPALALQKHEDTDCPCVVVSCPHKCSVOQLRLSELASHLSECVANSPCSKRRGCV 311
0Y 241 FCGTNOQIAHASSAVOHVNLKEMWSNLEKRVSLQNESVEKNKSIOSLHNOICSEI 300
DB 312 -GGTNOQIAHASSAVOHVNLKEMWSNLEKRVSLQNESVEKNKSIOSLHNOICSEI 370
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DB 371 EIEROKEMLRNNEKILHQRVDSQAEKLELDEKIRPFQNNNEEDSKSSYESIQNR 430
0Y 361 VTELESVDKSAQVARNGLLESQLSRHDDMLSVHDIRLADMDLRFOVLETSYNGVLIW 420
DB 431 VTELESVDKSAQVARNGLLESQLSRHDDMLSVHDIRLADMDLRFOVLETSYNGVLIW 490
0Y 421 KIROVKRRKQKQAVNCKTSLISOPFTYGYEGYKMCARVYLNGDGMGKTHLSFEVIMRG 480
DB 491 KIROVKRRKQKQAVNCKTSLISOPFTYGYEGYKMCARVYLNGDGMGKTHLSFEVIMRG 550
0Y 481 EYDALLPMPFKOKVTLMMDGSSRRHLGDFKDPNSSSKKPTGEMNIAASGCPVFAO 540
DB 551 EYDALLPMPFKOKVTLMMDGSSRRHLGDFKDPNSSSKKPTGEMNIAASGCPVFAO 610
0Y 541 TVLENGTYIKDDTFIKYIVDTSDLPDP 568
DB 611 TVLENGTYIKDDTFIKYIVDTSDLPDP 638

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RESULT 15
 ID AAW27434
 XX AAW27434 standard; protein; 512 AA.
 AC AAW27434;
 XX
 DT 27-MAR-1998 (first entry)
 XX
 DE Human CRAFT1 isoform p55del19,10.
 XX

KW CD40 receptor associated factor 1; CRAFT1-a; TRAF-3; p55; human;
 KW CD40 mediated intracellular signalling; organ rejection; allergy;
 KW hay fever; autoimmune disease; systemic lupus erythematosus;
 KW rheumatoid arthritis; myasthenia gravis; Graves' disease;
 KW idiopathic thrombocytopenia purpura; hemolytic anaemia;
 KW diabetes mellitus; psoriasis; hyper immunoglobulin E syndrome;
 KW apoptosis; Rieger's syndrome; spondyloarthritis; Lyme disease; HIV;
 KW syphilis; tuberculosis; arthritis; scleroderma; pulmonary fibrosis;
 KW pneumoconiosis; adult respiratory distress syndrome; pneumonitis;
 KW asbestosis; silicoconiosis; Farmer's lung; hepatitis; cirrhosis;
 KW glomerulosclerosis; multiple sclerosis; glomerulonephritis;
 KW glomerulonephritis; kidney disease; nephropathy;
 KW endocarditis; leprosy; malaria; Goodpasture's disease;
 KW Henoch-Schönlein purpura; polyarteritis; multiple myeloma;
 KW Wegener's granulomatosis; cryoglobulinemia;
 KW Waldenström's macroglobulinemia; amyloidosis; Sjögren's syndrome;
 KW AIDS; oesophageal dysmotility; inflammatory bowel disease;
 KW bladder disease; Epstein-Barr virus; mononucleosis; B cell tumour;
 KW Burkitt's lymphoma; nasopharyngeal carcinoma; pneumonia;
 KW gene therapy; diagnosis.

OS Homo sapiens.

Key Location/Qualifiers

Region 117..141
 /note="zinc finger 1 (2n binding to Cys-117, Cys-124, His-136 and Cys-141)"
 Region 148..170
 /note="zinc finger 2 (zinc binding to Cys-148, Cys-153, His-165 and Cys-170)"
 Region 177..197
 /note="zinc finger 3 (2n binding to Cys-177, Cys-180, His-192 and Cys-197)"

W0934473-A1.

25-SEP-1997.

21-MAR-1997; 97WO-US05076.

18-SEP-1996; 96US-0026584.

21-MAR-1996; 96US-0013820.

01-MAY-1996; 96US-0016626.

01-MAY-1996; 96US-0016659.

(UNCO) UNIV COLUMBIA NEW YORK.

Cleary AM, Frank DM, Lederman S;

WPI; 1997-479907/44.

N-PSDB; AAT90123.

Protein comprising CRAFT1-b domain capable of inhibiting CD40

mediated cell activation - useful to treat conditions characterised

by aberrant or unwanted level of CD40 mediated intracellular

signalling

Example 1: Fig ID-O: 158pp; English.

This polypeptide comprises a CRAFT1 (TRAF-3) isoform designated p55del19,10. It is encoded by exons 4-8 and 11-13 of the human CRAFT1 gene (see AAW27434) and arises by alternative splicing of the sequence for CRAFT1-a (see AAW27431), a signalling protein that interacts with the cytoplasmic tail of B cell surface molecule CD40 and which mediates a variety of T-dependent effects on B cell activation and differentiation. A higher mol.wt. CRAFT1, designated CRAFT1D (see AAW27428), has also been identified, as well as isoforms p5 (see AAW27429), p15 (see AAW27430) and variants of CRAFT1-a and CRAFT1-b (see AAW27432-37) that comprise different combinations of 5 zinc fingers. CRAFT1 peptides, comprising from 0-4 zinc finger domains, and nucleic acids encoding them, can be used to inhibit CD40 ligand activation of cells that express CD40 on their surface, particularly by introducing a nucleic acid molecule into the cells,

CC and used to treat conditions characterised by an aberrant or
CC unwanted level of CD40 mediated intracellular signalling, such as
CC organ rejection, or a CD40 dependent immune response in a subject
CC receiving gene therapy. The condition may be an allergic response
CC or an autoimmune response, or may be dependent on CD40 ligand-
CC induced activation of epithelial cells, an inflammatory kidney
CC disease, a smooth muscle cell-dependent disease, or a condition
CC associated with Epstein-Barr virus.

SO Sequence 512 AA;

Query Match 88.9%; Score 2674; DB 18; Length 512;
Best Local Similarity 90.1%; Pred. No. 2.2e-211;

Matches 512; Conservative 0; Mismatches 0; Indels 56; Gaps 1;

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DB 1 MESSKKMDSGALQTNPLKLTHTDRSAGTPVPEOGGYKEKFKVTEDEKCKECHLV 60
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OY 61 CSPKOTEGGHRPCSCMAALLSSSSPKCTACQESIYVDKYFKDNCCKRELLAQIYCRNE 120
    |||||||
DB 61 CSPKOTEGGHRPCSCMAALLSSSSPKCTACQESIYVDKYFKDNCCKRELLAQIYCRNE 120
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OY 121 SRGCAEOLTLGHLVHLKNDCHFEELPCVRPDCKEKYLKRDLDHVEKACKYREATCSHC 180
    |||||||
DB 121 SRGCAEOLTLGHLVHLKNDCHFEELPCVRPDCKEKYLKRDLDHVEKACKYREATCSHC 180
    |||||||

OY 181 KSQVPMIALQKHEDTDCPCVVVSCPHKCSVOTLRSELHAHLSECVNAPSTCSFKRYGCV 240
    |||||||
DB 181 KSQVPMIALQKHEDTDCPCVVVSCPHKCSVOTLRSELHAHLSECVNAPSTCSFKRYGCV 240
    |||||||

OY 241 FPGTNOQIKAHASSAVQHVNLKEMSNLSLEKYSLLQNESVEKNKSIQSLHNOICSEI 300
    |||||||
DB 241 FPGTNOQIKAHASSAVQHVNLKEMSNLSLEKYSLLQNESVEKNKSIQSLHNOICSEI 300
    |||||||

OY 301 EIERQKEMLRNNEKILHLQRYIDSQAELKELDKELRPFQONWEADSMKSSVESLQNR 360
    |||||||
DB 301 EIERQKEMLRNNEKILHLQRYIDSQAELKELDKELRPFQONWEADSMKSSVESLQNR 360
    |||||||

OY 361 VTELESVDKSAGQVARNRNGLESQLSRRDOMLSVHDTIRLADMDLRFOYLEFASVNGVLIW 420
    |||||||
DB 361 VTELESVDKSAGQVARNRNGLESQLSRRDOMLSVHDTIRLADMDLRFOYLEFASVNGVLIW 420
    |||||||

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    |||||||
DB 421 KTRDYRRRQEAVMGKTLISYQSPFYTGFGYKMCARYLLNGDGMKGKTHLSLFFVIMRG 480
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    |||||||
DB 481 EYDALLPMPFKOKVTLMIMDOGSSRRHLGDAFKPDPNSSSFKKPTGEMNITASGCPVFAQ 540
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OY 541 TVLENGTYTKDITIFIKVIVDTSDLPDP 568
    |||||||
DB 541 TVLENGTYTKDITIFIKVIVDTSDLPDP 568
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OY 568 TVLENGTYTKDITIFIKVIVDTSDLPDP 512
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DB 568 TVLENGTYTKDITIFIKVIVDTSDLPDP 512
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